

Operational Description

4/25/07

Model -- PLS100 - PhoneLink Wireless Dial Tone Extender System

Part # -- PLB100 - Base unit

Part # -- PLR100 - Remote unit

Part # -- PLA100 - Antenna

Part # -- PLT100 - Wall Transformer

PhoneLink is a short range wireless system that extends a standard dial-up telephone line across physical barriers without the use of wire.

The system consists of a Base unit and a Remote unit. The Base connects to a telephone company line and is mounted on a wall or sits on a table top. The Remote is installed some distance away but within signal range. The Remote re-generates the phone line complete with loop current and ring voltage as though wire was used the entire way.

Both units include a radio frequency transceiver, telephone line interface circuitry, audio filtering and a microcontroller. The radio transceivers include whip antennas and operate in the license free 902-928 Mhz ISM band. The Base phone line circuitry is designed to operate as a customer end device similar to a standard telephone or computer modem complete with ring detect and off-hook sensing. The Remote phone line circuitry generates a new phone line similar to a phone company central office complete with loop current and ringing voltage.

A standard telephone is connected to the Remote unit. With the telephone on-hook, the wireless units are in stand-by mode with the Base unit on-hook. Taking the telephone off-hook, a signal is sent from the Remote to the Base via the radios for the Base to go off-hook and pass audio through both units. The off-hook condition at the Base causes the phone company central office to generate loop current and a dial tone. The dial tone is passed through both wireless units back to the end user's telephone as though wire was used the entire way. Touch Tone and voice audio is passed through both units until the user places his phone back on-hook which in turn causes the Base to go on-hook as well and end the call.

In a similar fashion, an incoming ring detected at the Base is passed wirelessly to the Remote which re-generates the ring to the end user's phone. Taking the phone off-hook is wirelessly signaled back to the Base to go off-hook and the call is connected with audio passed through both wireless units.

The wireless transceivers use FM (frequency modulation -- emissions designator F3E) and modulated using a standard analog voice bandwidth signal of 300-3200 Hz.

The wireless units are powered by plug-in wall transformers.

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